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ABSTRACT

This booklet is intended to help mainstreamed mentally retarded, emotionally disturbed, or learning disabled high school students acquire a basic understanding of the responsibilities and working conditions of meat cutters and to practice basic math skills necessary in the occupation. The first section provides a brief introduction to the occupation by focusing upon those job tasks of a meat cutter with which the student is likely to be familiar. The next two sections deal with the work environment of the typical meat cutter and the training, education, and experience needed for the occupation. Exercises addressing basic math skills used by meat cutters are provided. Various suggestions are listed for students interested in further exploring the occupation of meat cutter. A glossary and answer sheet conclude the booklet. (MN)

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MATH on the job

Hazel Cutler

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MATH ON THE JOB:

MEAT CUTTER

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MATH on the job

Meat Cutter

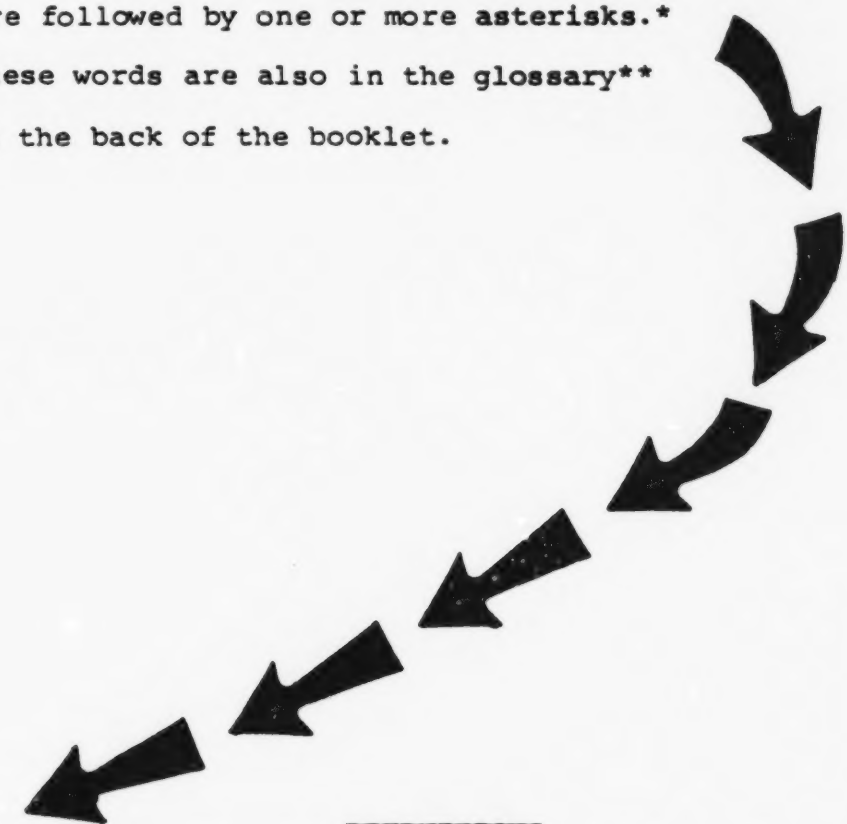
In this booklet, you can--

- find out what a meat cutter does
- see how a meat cutter uses math
- get a chance to use math as a meat cutter
- find out the types of things a meat cutter needs to know
- find out what courses, training, and experience you need to become a meat cutter

SPECIAL WORDS USED IN THIS BOOKLET

Workers in many jobs use special words or special meanings for words. Learning these words helps you to learn about a job.

You will find some of these special words in this booklet. When these words, and some hard words, are used for the first time, they are followed by one or more **asterisks.*** These words are also in the **glossary**** at the back of the booklet.



DEFINITIONS

*An asterisk (*) is a symbol that tells you to look at the bottom of the page for the meaning, or definition, of the word.

**A glossary is a list of words with their meanings.

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HAVE YOU EVER...

- trimmed fat off a cut of meat?
- **dressed***, or helped someone dress, a rabbit, squirrel, or pheasant?
- watched a butcher cut and prepare meat for sale?
- prepared and wrapped meat for freezing?

If you have, then you have some idea about the work of a meat cutter. This booklet will help you learn about the work of a meat cutter and how math is important to do the job.

DEFINITION

*__Dress__ means to kill and prepare meat animals for sale or use.

WHAT DOES A MEAT CUTTER DO?

A meat cutter's main task is to prepare meat, fish, and poultry for sale to customers. How does a meat cutter do this? As a meat cutter, you--

- cut large pieces of meat called **sides*** or **quarters**** into smaller cuts such as steaks, chops, or roasts
- prepare specialty products such as sausage, ham, and bacon
- clean fish and remove the bones
- package and arrange cuts of meat on trays for display in meat counters
- help customers make selections
- cut meat for special orders
- weigh, price, and label cuts of meat

DEFINITIONS

*A side is one-half (1/2) of a meat animal such as a steer, hog, or sheep.

**A quarter is one-fourth (1/4) of a meat animal. Quarters are called front quarters or hind quarters.

A meat cutter uses math on the job every day. As a meat cutter, you--

- count, add, subtract, multiply, and divide
- use whole numbers, fractions, and decimals
- **estimate*** thicknesses of cuts and portions of meat
- use scales to weigh meat
- calculate prices
- collect payment from customers
- make change

DEFINITION

*To **estimate** is to carefully guess the amount or cost of something.

A meat cutter uses math to find the cost of a side of beef.

EXAMPLE

Sam Douglas is a meat cutter. Sam sells separate cuts of meat. He also sells sides of beef. His price for a side of beef is given as an amount per pound before **butchering***.

Sam has a side of beef that weighs 135 pounds (lbs). The price of the side of beef is $1.83 per pound before butchering. What is the cost of the side of beef? To find the cost, multiply the weight of the beef by the price per pound.

135 lbs x $1.83 = $247.05

The cost of the side of beef is $247.05.

NOW YOU TRY IT

Practice Exercise A

The table below gives the weight of the beef before butchering and the price per pound. Find the cost of each side of beef. The first problem is done for you.

	Weight of the beef before butchering	Price per pound	Cost of the side of beef
	135 lbs.	$1.83	$247.05
1.	130 lbs.	$1.80	?
2.	145 lbs.	$1.90	?
3.	125 lbs.	$1.66	?
4.	155 lbs.	$1.92	?
5.	165 lbs.	$1.75	?

DEFINITION

*To <u>butcher</u> means to trim the fat off of and remove the bone from a piece of meat.

A meat cutter uses math to find the amount of loss.

EXAMPLE

During butchering, when the fat is trimmed and the bone is removed from a side of beef, there is a loss in the weight of the beef. This loss is usually between 20% and 30%.

Sam Douglas, the meat cutter, has a side of beef with a weight of 135 pounds. The loss during butchering is 28%. What is the loss in pounds?

To find the loss in pounds, multiply the weight of the beef by the percent of loss written as a decimal.

135 lbs. x .28 = 37.8 lbs.

The loss is 37.8 pounds.

NOW YOU TRY IT

Practice Exercise B

In the table below, you are given the weight of the beef before butchering and the amount of loss expressed as a percent. Find the loss in pounds for each side of beef listed. The first problem is done for you.

	Weight of the beef before butchering	Loss in percent	Loss in pounds
	135 lbs.	28%	37.8 lbs.
6.	130 lbs.	30%	?
7.	145 lbs.	26%	?
8.	125 lbs.	24%	?
9.	155 lbs.	29%	?
10.	165 lbs.	25%	?

A meat cutter uses math to find the amount of usable meat.

EXAMPLE

Once the fat is trimmed and the bone is removed from a side of beef, the meat cutter is left with what is known as usable meat. Sam, the meat cutter, has a side of beef with a weight of 135 pounds before butchering. The loss during butchering is 37.8 pounds. What is the amount of usable meat that Sam now has?

To find the amount of usable meat, subtract the amount of loss in pounds from the weight of the beef before butchering.

135.0 lbs. - 37.8 lbs. = 97.2 lbs.

The amount of usable meat is 97.2 lbs.

NOW YOU TRY IT

Practice Exercise C

In the table below, you are given the weight of the beef before butchering and the amount of loss in pounds. Find the amount of usable meat. The first problem is done for you.

	Weight of the beef before butchering	Loss in pounds	Amount of usable meat
	135 lbs.	37.8 lbs.	97.2 lbs.
11.	130 lbs.	39 lbs.	?
12.	145 lbs.	37.7 lbs.	?
13.	125 lbs.	30 lbs.	?
14.	155 lbs.	44.95 lbs.	?
15.	165 lbs.	41.25 lbs.	?

A meat cutter uses math to find the cost per pound of usable meat.

EXAMPLE

Sam, the meat cutter, has a side of beef with a weight of 135 lbs. before butchering. The cost of the side of beef is $247.05. After butchering, Sam has 97.2 lbs. of usable meat. What is the cost per pound of usable meat?

To find the cost per pound of usable meat, divide the cost of the side of beef by the amount of usable meat (round to the nearest cent).

$$\$247.05 \div 97.2 = \$2.54$$

The cost per pound of usable meat is $2.54.

NOW YOU TRY IT

Practice Exercise D

In the table below, you are given the cost of the side of beef and the amount of usable meat. Find the cost per pound of usable meat (rounded to the nearest cent). The first problem is done for you.

	Cost of the side of beef	Amount of usable meat	Cost per pound of usable meat
	$247.05	97.2 lbs.	$2.54
16.	$234.00	91 lbs.	?
17.	$275.50	107.3 lbs.	?
18.	$207.50	95 lbs.	?
19.	$297.60	110.05 lbs.	?
20.	$288.75	123.75 lbs.	?

WHERE DOES A MEAT CUTTER WORK?

As a meat cutter, you may work in many different places preparing and selling meat. You may work in a--

- retail* food store
- wholesale** store
- restaurant
- hotel
- hospital

As a meat cutter, you will work with other food service workers as a team to give customers good service. You may work for a meat department or food store manager.

You will also work with customers. The customers will order the type and amount of meat they need. You will--

- cut or select meat to fill the order
- weigh the meat
- calculate the cost of the meat
- collect payment
- give change, if due

DEFINITIONS

*__Retail__ is the sale of a product, such as meat, in small quantities or numbers. Usually, the product is sold directly to the consumer or the person who is going to use it.

**__Wholesale__ is the sale of a product, such as meat, in large quantities or numbers. Usually, the product is sold to a retail merchant who will then sell it to the consumer.

A meat cutter uses special equipment and utensils. As a meat cutter, you use--

- hand tools such as knives, saws, cleavers*, and knife sharpeners
- power tools such as band saws to cut bony pieces
- grinders to prepare ground meat such as hamburger and sausage
- slicing machines to slice meat into serving portions
- scales to weigh meat

DEFINITION

*A cleaver is an instrument used to chop large portions of meat into smaller pieces.

IF YOU ARE INTERESTED IN

THE WORK OF A MEAT CUTTER

AND WOULD LIKE TO KNOW MORE,

READ ON

WHAT TRAINING, EDUCATION, AND EXPERIENCE DO YOU NEED TO BECOME A MEAT CUTTER?

What do you think? Would you like to be a meat cutter? If you would, there are some things you should know.

To get a job as a meat cutter, you need to know how to--

- use tools and equipment such as band saws and meat grinders
- prepare various cuts of meat

The best way to learn these things is to take courses in food preparation at your high school. Courses in meat cutting may also be offered at your local vocational education center.

You may also learn about being a meat cutter by entering an apprenticeship or on-the-job training program. In these programs, you will work with experienced meat cutters. They will tell you what to do and train you on the job. These programs may take up to three years, and you are paid for the work you do.

Taking every chance to learn new skills and tasks will help you do a better job. Good math skills will also help you perform your work as a meat cutter.

DO YOU WANT TO DO MORE MEAT CUTTER'S MATH?

Practice Exercise E

The table below gives the weight of the beef before butchering and the price per pound. Find the cost of each side of beef listed. Remember: to find the cost, multiply the weight by the price per pound.

	Weight of the beef before butchering	Price per pound	Cost of the side of beef
21.	125 lbs.	$1.73	?
22.	120 lbs.	$1.70	?
23.	135 lbs.	$1.80	?
24.	115 lbs.	$1.55	?
25.	145 lbs.	$1.82	?

Practice Exercise F

The table below gives the weight of the beef before butchering and the amount of loss expressed as a percent. Find the loss in pounds for each side of beef listed. Remember: to find the loss in pounds, multiply the weight of the beef by the percentage loss (written as a decimal).

	Weight of the beef before butchering	Loss in percent	Loss in pounds
26.	125 lbs.	28%	?
27.	120 lbs.	30%	?
28.	135 lbs.	26%	?
29.	115 lbs.	24%	?
30.	145 lbs.	29%	?

Practice Exercise G

In the table below, you are given the weight of the beef before butchering and the amount of loss in pounds. Find the amount of usable meat. Remember: to find the amount of usable meat, subtract the amount of loss in pounds from the weight of the beef before butchering.

	Weight of the beef before butchering	Loss in pounds	Amount of usable meat
31.	125 lbs.	35 lbs.	?
32.	120 lbs.	36 lbs.	?
33.	135 lbs.	35.1 lbs.	?
34.	115 lbs.	27.6 lbs	?
35.	145 lbs.	42.05 lbs.	?

Practice Exercise H

In the table below, you are given the cost of the side of beef and the amount of usable meat. Find the cost per pound of usable meat (rounded to the nearest cent). Remember: to find the cost per pound of usable meat, divide the cost of the side of beef by the amount of usable meat.

	Cost of the side of beef	Amount of usable meat	Cost per pound of usable meat
36.	$216.25	90 lbs.	?
37.	$204.00	84 lbs.	?
38.	$243.00	99.9 lbs.	?
39.	$178.25	87.4 lbs.	?
40.	$263.90	102.95 lbs.	?

DO YOU WANT TO EXPLORE SOME MORE?

1. Visit a large grocery store and a specialty meat market. Talk to meat cutters at both stores. Ask about the work they do. Find out how their work is the same. Also, find out how their work is different. Where would you rather work? Why?

2. Meat cutting can be hazardous work. Meat cutters work with sharp knives, power saws, and grinding machines. Would you be comfortable working with knives, power saws, and grinding machines every day?

3. Meat cutting is one of many jobs involved in food preparation. Visit your library. Ask the librarian to help you locate books that will tell you more about jobs in food preparation. Are there other jobs in food preparation you would be interested in?

4. Meat cutters often work in cold storage rooms where meat is stored. They also must stand for long periods of time and lift heavy pieces of meat. Do you think you could work under these conditions?

5. Are you interested in other jobs which are similar to that of the meat cutter?

   - Meat blenders tend machines that grind and mix meat to use in baby food.
   - Meat carvers work in hotels and restaurants and cut individual portions from roasts and poultry.
   - Meat counter clerks receive merchandise, total bills, receive payment, and make change for customers in a retail meat market.
   - Meat clerks receive, grind, and store meats in a retail meat market.
   - Meat dressers kill, skin, clean, and cut up animals such as hogs, sheep, and cattle.

   You must have good math skills to do these jobs well. Most of these workers add, subtract, multiply, and divide every day on the job.

GLOSSARY

Asterisk (*): a symbol that tells you to look at the bottom of the page for the meaning, or definition, of the word.

Butcher: to trim the fat off of and remove the bone from a piece of meat.

Cleaver: an instrument used to chop large portions of meat into smaller pieces.

Dress: to kill and prepare meat animals for sale or use.

Estimate: to carefully guess the amount or cost of something.

Glossary: a list of words with their meanings.

Quarter: one-fourth (1/4) of a meat animal. Quarters are called front quarters and hind quarters.

Retail: the sale of a product, such as meat, in small quantities or numbers. Usually, the product is sold directly to the consumer or the person who is going to use it.

Side: one-half (1/2) of a meat animal, such as a steer, hog, or sheep.

Wholesale: the sale of a product, such as meat, in large quantities or numbers. Usually, the product is sold to a retail merchant who will then sell it to the customer.

ANSWER SHEET

Practice Exercise A

1. $234.00
2. $275.50
3. $207.50
4. $297.60
5. $288.75

Practice Exercise B

6. 39 lbs.
7. 37.7 lbs.
8. 30 lbs.
9. 44.95 lbs.
10. 41.25 lbs.

Practice Exercise C

11. 91 lbs.
12. 107.3 lbs.
13. 95 lbs.
14. 110.05 lbs.
15. 123.75 lbs.

Practice Exercise D

16. $2.57
17. $2.57
18. $2.18
19. $2.70
20. $2.33

Practice Exercise E

21. $216.25
22. $204.00
23. $243.00
24. $178.25
25. $263.90

Practice Exercise F

26. 35 lbs.
27. 36 lbs.
28. 35.1 lbs.
29. 27.6 lbs.
30. 42.05 lbs.

Practice Exercise G

31. 90 lbs.
32. 84 lbs.
33. 99.9 lbs.
34. 87.4 lbs.
35. 102.95 lbs.

Practice Exercise H

36. $2.40
37. $2.43
38. $2.43
39. $2.04
40. $2.56